



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,832	02/01/2006	Wataru Takahashi	39626	8007

52054 7590 09/20/2007
PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

KERNS, KEVIN P

ART UNIT	PAPER NUMBER
----------	--------------

1725

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

09/20/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patdocket@pearne.com
dchervenak@pearne.com

Office Action Summary	Application No. 10/566,832	Applicant(s) TAKAHASHI ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2006 and 09 August 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/1/06, 6/20/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "3a" (see paragraphs [0027], [0029], and [0031]). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

Art Unit: 1725

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants' admitted prior art (AAPA – paragraphs [0004]-[0011] of specification; and "Prior Art" Figures 3 and 4) in view of JP 2003-285167 (complete translation of this Japanese document was provided with the previous Office Action).

The applicants' admitted prior art (AAPA) discloses an arc welding robot that comprises a robot main body 101 including a welding torch 104 and a wire feeder 105 for feeding welding wire to the welding torch 104 (Figure 3), with the wire feeder 105 further including a sensor (feeder sensor cable 103b and wire feeder encoder 105f) and a wire feeder motor 105a (Figure 4); a robot controller 102 that controls the robot main body 101; a welding power supply 103 arranged inside the robot controller 102, with the welding power supply 103 controlling the wire feeder 105 and a welding power; a robot main body driving power cable 102a and a robot control cable 102b that are connected between the robot controller 102 and the robot main body 101; and a welding voltage feedback cable 105e and a gas valve control cable 105d for a shield gas supplied to the welding torch 104 that are separately (in a dispersed fashion) accommodated within the robot main body 101 (AAPA; paragraphs [0004]-[0011] of specification; and "Prior Art"

Figures 3 and 4). The applicants' admitted prior art (AAPA) does not disclose that the wire feeder sensor cable is accommodated within the robot main body, rather than provided directly from the robot controller (see comparative Figure 1 versus Figure 3, as well as Figure 2 versus Figure 4).

However, JP 2003-285167 discloses a power supply mechanism for a welding robot, in which the welding robot includes a robot base 2, a welding torch 18 and associated wire feeder 22, and a robot main body arranged therebetween; a power cable 3 (outside robot main body 3A and inside robot main body 3B); and many control cables 4 (see paragraph [0023]) that include motion detectors/sensors for respective robot joint and wire feeder motors, such that these sensed parameters are sent to and analyzed by a controller 20, with the plurality of control cables (including sensors) that are accommodated within the robot main body being advantageous for improving durability without imparting slack to the power and control cables, thus reducing twisting of cables and improving the welding efficiency (abstract; paragraphs [0010]-[0036] of translation; and Figures 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the arc welding robot disclosed by the applicants' admitted prior art (AAPA), by using the plurality of control cables (including a wire feeder sensor cable) that are accommodated within the robot main body, as taught by JP 2003-285167, in order to improve durability without imparting slack to the power and control cables, thus reducing twisting of cables and improving the welding efficiency (JP 2003-285167; abstract; paragraphs [0017] and [0034]-[0036] of translation).

Response to Arguments

5. The examiner acknowledges the applicants' amendment, replacement drawing sheets, and a copy of JP 60-157078 U (previously missing from the 2/1/06 IDS). In addition, an Information Disclosure Statement (IDS) dated June 20, 2007 has been considered and initialed, and a copy is provided with this Office Action. The 2/1/06 IDS has been corrected in view of the receipt of JP 60-157078 U, and a copy is also enclosed. The amendments and replacement drawing sheets overcome prior objections to the drawings, abstract, specification, and claim 3, with the exception of the drawing objection set forth in above section 1. If "3a" cannot be shown in the drawings (in reference to applicants' remarks on page 7), then all instances of "3a" should be deleted from the specification. Claims 1-4 remain under consideration in the application.

6. Applicants' arguments filed August 9, 2007 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 7-9 of the amendment, the applicants' major argument is that no motivation allegedly exists to combine the applicants' admitted prior art (AAPA) and Nishimura (JP 2003-285167), as the applicants state in the paragraph bridging pages 7 and 8 of the remarks. The examiner agrees with the applicants' statement "A significant difference between the present invention and AAPA relates to how a feeder sensor cable 103b of AAPA is

routed.". Regarding AAPA versus the applicants' invention, this difference is apparent in (applicants') Figure 1 versus (AAPA) Figure 3, as well as (applicants') Figure 2 versus (AAPA) Figure 4. However, the only apparent difference between the applicants' invention and the AAPA is that the wire feeder sensor cable is accommodated within the robot main body (i.e. through the "base" of the robot and extending through the arm and wrist portions that comprise the manipulating regions of the robot. The applicants also argue the "ring 8" and "brush 9" in slide contact (top of page 8) and the alleged failure of Nishimura to "recognize the issue of wire savings" (last full paragraph on page 8), but it is noted that neither of these features (in terms of structure and/or function) has been specifically set forth as claim limitations. Regarding the features disclosed by Nishimura, Nishimura discloses a power cable 3 and many control cables 4 (inclusive of motion detectors/sensors for robot joint and wire feeder motors). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the plurality of control cables that are accommodated within the robot main body, as taught by Nishimura, are advantageous for improving durability without imparting slack to the power and control cables, thus reducing twisting of cables and improving the welding efficiency (see

abstract; paragraphs [0017] and [0034]-[0036] of the translation). As a result of the teachings and motivation provided by Nishimura, a *prima facie* case of obviousness has been established, and claims 1-4 remain rejected.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571) 272-1177. The fax phone

Art Unit: 1725

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns* 9/16/07
Primary Examiner
Art Unit 1725

KPK
kpk
September 16, 2007